P.137 #1-4.

$F_{net} = ma$

$F_g = mg$

$kg \times \frac{m}{s^2}$

1. $m = 2.3\ kg$

$F_g = 2.3 \times 9.81$

$= 22.6\ N.$

Weigh? $= F_g =$ Force gravity

2. $F_g = 652.58\,N$

a) mass = ?

$F_g = mg$

$m = \frac{F_g}{g} = \frac{652.58\,N}{9.81\,m/s^2} = 66.7\,kg$

b) F_g at North Pole?

$g = 9.8322\,m/s^2$

$m = 66.7\,kg$

$F_g = mg$

$= 66.7 \times 9.8322$

$= 655.8\,N$

c) $g = 9.0795$

$F_g = 66.7 \times 9.0795$

$= 605.8\,N$

3. $m = 209\,kg$

F_g on Earth $= mg = 209 \times 9.81 = 2050\,N$

F_g on Moon $= mg = 209 \times 1.64 = 342.76\,N$

$g_e = 9.81\,m/s^2$

$g_m = 1.64\,m/s^2$

4. $m = 1.0\,kg$

$F_g = 3.25 \times 10^{-2}\,N$

$$g = \frac{F_g}{m} = \frac{3.25 \times 10^{-2}\,N}{1.0\,kg} = 3.25 \times 10^{-2}\,m/s^2$$

Oct 6-8:42 AM

Oct 6-8:42 AM

Oct 6-8:42 AM

Oct 6-8:42 AM